CADSTAR

Board Layout
CADSTAR PCB Layout

DATA SHEET

Introduction

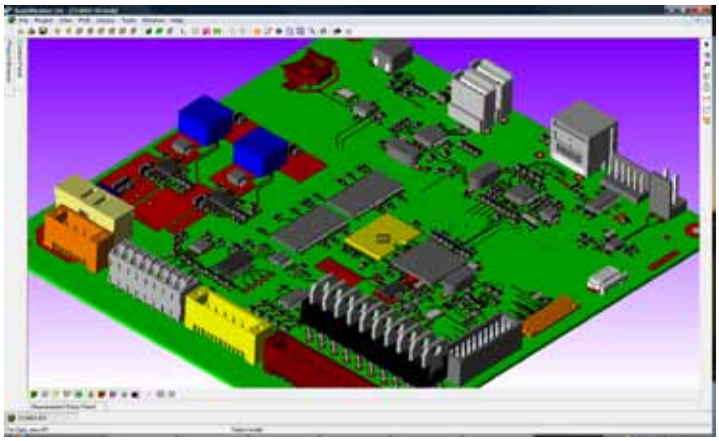
Easy to learn and fast to use, CADSTAR delivers high performance PCB layout to your desktop. From single-sided to complex double-sided, multilayer and SMT designs, CADSTAR PCB Layout has the tools you need to navigate the design process and increase productivity.

CADSTAR offers superior design capability throughout the PCB design flow, from initial schematic through layout, routing, high-speed, signal integrity, power integrity analysis, to full board EMC screening. CADSTAR also includes outputs to drive fabrication, assembly and test of the finished design. As the core element of the CADSTAR High-speed Design suite, PCB Layout provides a fast, error-free design environment that helps you realize your creativity.

Personalized Design Environment

For both the occasional and regular user, CADSTAR offers a powerful user interface with common functions in familiar locations, ensuring you always have the right tool on hand, with properties and extended functionality available from mouse or keyboard assist menus.

CADSTAR offers a flexible solution to meet your design process requirements. With project management features, such as workspaces, you can create your own personalized working environment and manage your design data effectively. The CADSTAR design environment also supports customization by allowing users to create macros to automate repetitive tasks, or take advantage of the OLE environment to implement additional automation to reduce your product development schedule.



3D view of a complete PCB assembly enables accurate verification of the PCB within the enclosure

Top Features and Benefits

- Reduce time and effort by using automatic placement with pattern replication and design block reuse.
- Integrated with CADSTAR Place and Route Editor for constraint-driven, high-speed routing.
- Fast optimization to improve design routability using automatic gate and pin swap.
- Eliminate project duplication with design variants to drive multiple assemblies from a single project.
- Support for bi-directional exchange with mechanical systems using IDF and DXF.
- ODBC-compliant library with parametric search and version control.
- Support for the latest CAM output formats, including IPC-D-356 and ODB++.
- Automate and streamline your design process in a configurable design environment with macros, report generation utilities and OLE.
- Improve collaboration with mechanical engineering and conduct full 3D verification with Board Modeler Lite using STEP, SAT and IDF

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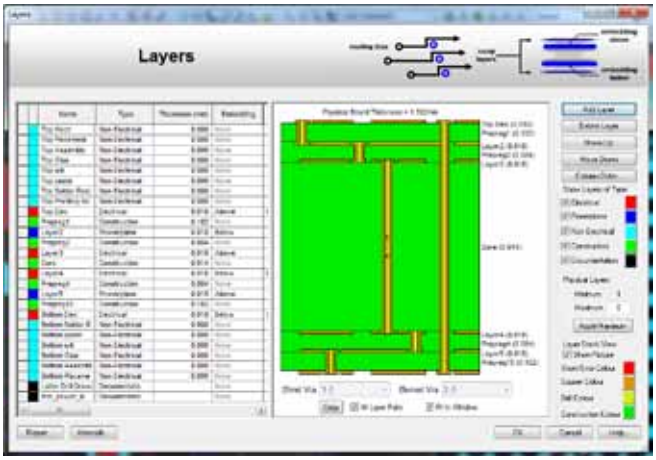
Design Configuration

Layer stack and assignment editors let you configure the PCB design to meet your electrical and manufacturing requirements.

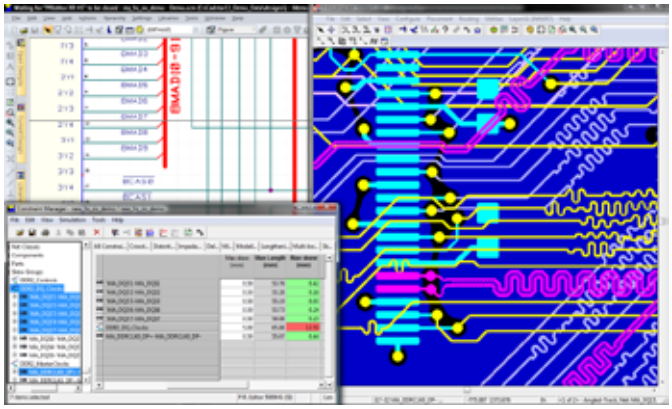


Board Stackup editor allows accurate construction of build-up rules and materials for documentation and impedance profiling

CADSTAR promotes a straightforward method to create schematic and PCB layout templates for commonly-used design configurations, including design rules, layer stack-up, and documentation details.. Critical components can also be pre-placed in the template to minimize design time and ensure the PCB layout aligns with the enclosure.

Placement and Routing

Pattern replication and design block reuse enable efficient reuse of existing placement patterns or entire design blocks. Adding pre-defined circuit blocks in the schematic greatly speeds up the design process. The matching blocks in PCB Layout include parts, routes, copper and text on multiple layers, reducing layout time and minimizing risk during EMC verification by re-using previously tested “known good” layout blocks.



Complex high-speed routing can be realized with CADSTAR High-speed Design Suite

At the heart of CADSTAR’s PCB Layout technology is the CADSTAR Place & Route Editor (P.R.Editor), Zuken’s powerful place and route design environment. Interactive placement tools, including component push aside and spring back, and optimum and target position indicators provide superior control over component placement. P.R.Editor offers complete control over routing for the most complex designs in the shortest time possible.

Advanced Layout Capabilities

With advanced copper handling and the ability to create split, partial, embedded and full copper planes, CADSTAR enables precise control for analog design, including curved and mitered cutouts, hatching with flexible angles and variable spacing. Teardrops can be placed on tracks, vias and pads, updating dynamically to maintain smooth transitions between copper shapes. Curved tracks and automatic track fattening, plus the ability to maximize a copper area, extend the capability of CADSTAR to meet demanding high-speed layout requirements for matched impedance and delay-based routing.

Design for Manufacturing

Powerful drafting tools with automatic selection of board figures and associative dimensioning let you quickly document the board profile for production and assembly.

CADSTAR includes an extensive range of design rules for both spacing and manufacturing, ensuring the design conforms to your company standards and minimizing the risk of board manufacturing errors.

Drill patterns and drill table reports are updated dynamically so any changes to the design are reflected automatically in the manufacturing data.

CADSTAR generates a range of manufacturing output formats including Gerber, NC drill, DXF, PDF, placement files, IPC-D-356, ODB++ and parts list (bill of materials) reports. Preparing for manufacturing is simplified with the batch processor feature that allows you to build your own selection of outputs and create a full set of manufacturing data at one time.

A range of pre-defined reports are provided, and the report generator creates configurable reports such as placement machine drivers and detail lists.

Complete Libraries

With more than 250,000 parts in the on line library, CADSTAR has an extensive range of parts from which to build your design. You can also create your own footprints and parts using the Graphical Library Editor, which incorporates design wizards for building large or complex footprints.

www.zuken.com/cadstar

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